

Made By Musicians, For Musicians

**POLYTONE**

POLYTONE MUSICAL INSTRUMENTS, INC.

Things to Know About your New ALL-TUBE "F U S I O N" Amplifier

OPERATING INSTRUCTIONS

CONGRATULATIONS ON YOUR PURCHASE OF OUR POLYTONE "F U S I O N"! WE'RE AS EXCITED TO BRING YOU THIS UNIQUELY VERSATILE AND BEAUTIFULLY DESIGNED AMPLIFIER AS WE'RE CERTAIN YOU ARE TO EXPLORE IT'S PLAYING POTENTIAL. TO ACHIEVE THE MAXIMUM FROM "F U S I O N", PLEASE READ THE FOLLOWING CAREFULLY .

REAR PANEL

1. Fuse: 3A Slo Blo
2. AC Outlet: maximum power 400W
3. AC Cord: To wrap cord when not in use, bring down to left knob and wrap counter-clockwise. CAUTION: we do not recommend storing cord in cavity of cabinet since speaker or tube damage may result.
4. Record Out: similar to preamp signal which can be plugged into any amplifier, directly into a recording board or to our powered sidekick cabinet.
5. 4 Ohm Min: Be sure speaker wire (red/blue wires with metal right angle plug) is plugged into jack. Speaker must always be connected before turning amp on, otherwise damage will occur.
6. 2 Ohms/4 Ohms Toggle Switch (located to the right of the EXT SPK Jack): When using an external speaker of 4, 8 or 16 Ohms, this switch must be in the 2 Ohm position to enable the amp to deliver full power for any impedance under 4 Ohms. Switch should be in 4 Ohm position when no external speaker cabinet is used.
7. Return Level/Send Level: For use with external effects devices. The SEND (output) feeds signal to desired effect. With volume control, use as much SEND LEVEL as possible without distorting or overloading. Observe CAUTION to high sensitivity of certain effects to overload. Example of hookup: with our R.S. MODULATOR, connect a cord from input on MODULATOR marked "To Inst" to SEND Output on amp and a cord from "To Amp" back to RETURN Input.
8. Remote Footswitch Jacks: 3 Stereo Jacks for remote control of Fusion's unique features - Dial-A-Sound/Effects Loop, Channel Switching/Edge and Reverb/Distortion.  
DIAL-A-SOUND - operable manually from selector switch on front panel. The Sound of your choice can then be turned on and off remotely.  
EFFECTS LOOP - To utilize this feature, it must be operated with footswitch plugged in and an effects box must also be plugged in the SEND Output. Otherwise, if footswitch is in the ON position, the amp will produce NO SOUND!  
CHANNEL SWITCHING is of course only usable with footswitch and with instrument in Channel 1. This allows you to vary tone controls between Channel 1 and 2 and switch back and forth remotely.

## REAR PANEL - continued

EDGE can be operated manually by moving the Bright/Dark slide switch on front panel or remotely with use of footswitch (Channel 1 only). For remote control, the Bright/Dark switch MUST be in normal or dark position; if in Bright position, there will be no audible change.

REVERB: In addition to setting control to your desired position from the front panel, the reverb can also be turned on and off remotely.

DISTORTION will only operate with footswitch plugged in (no manual control). This is a separate circuit; the Distortion operates independently of the rest of the amp.

A DUAL FOOTSWITCH is provided with purchase of your FUSION amplifier which will allow remote control of one pair of functions only. For a nominal fee, an extra dual footswitch can be purchased or, the MASTER REMOTE FOOTSWITCH is available with Light Emitting Diodes which will operate all six features.

MANUFACTURER'S NOTE: The MASTER REMOTE FOOTSWITCH box has 3 stereo cables each 12' in length. The question has been asked why not use a single connector to eliminate the extra cables? We have weighed the options and feel that in case of an emergency where your remote footswitch is lost, forgotten, etc., a standard replacement for this kind of jack is more readily available. There are always tradeoffs and there is definitely no Utopia in Electronics.

## FRONT PANEL (right to left)

1. Polarity Power Switch: Center Off with upper and lower On for polarity change. LED indicates when power is on.
2. Standby Switch: Center position ° indicates amp Off. Switch up - amp operates at 100W (all four power tubes operable). Switch down - amp operates at 60W (2 power tubes operable). The advantage of 60W performance is use of natural distortion which comes much quicker than at 100W and also gives a different timbre, although 60W will have less punch. During intermission always set Standby to ° position. (center).
3. Master Volume: We recommend levels from 4 or more.
4. Distortion: A separate circuit, Distortion Gain will allow you to have as much Distortion as necessary, while the Distortion Volume controls the volume of the Distortion network. AS NOTED PREVIOUSLY, THIS CIRCUIT OPERATES ONLY WITH A FOOTSWITCH. When switching on, make sure Gain and Volume are turned up to desired amount, otherwise this circuit doesn't work - No Sound! The Channel Volume must also be turned up or you may not get the amount of Distortion you require. Be sure to equalize the Distortion level with Channel Volume level.

Suggested Dial settings for maximum Effect: Channel Volume - 4; Treble, Mid and Bass - your choice; Dial-A-Sound - position of your choice. When switching back to clean sound, be sure Channel Volume is not too loud. Refer to Master Volume.

For a natural Distortion (Distortion circuit off) we like Channel 2 with Volume at 8 to Full; Treble - 5/6; Mid - 5; Bass - 8; Dial-A-Sound - Metal; Presence - 10; Master Volume to desired Volume (min. 4). For guitar, volume and tone controls wide open with both pickups or back pickup used.

FRONT PANEL - continued

5. PRESENCE control will always work in any channel and any combination of effects or direct. By clockwise rotation you can increase highs and thus create more Presence. These highs come from the power amp. This control is most effective from 5 to 10.
6. Reverb: Set to desired position. With tremendous gain in the circuit and with the reverb set at high levels, certain weather conditions and placement of cabinet on bandstand may set up acoustic feedback. Just reduce level a little to eliminate. Ours is a special reverb circuit and, as you can hear, has one of the prettiest sounds of any on the market today. This device can be remotely operated from the footswitch.
7. Exclusive DIAL-A-SOUND: a 5 position preset active graphic equalizer with preset voicings or used in conjunction with tone controls on individual channels. Without footswitch, DIAL-A-SOUND must be switched off manually. Mfg. Note: When unit is cold, you may find that when moving the selector switch, you hear a pop caused by capacitors discharging. This is no cause for concern. To eliminate, rotate switch clockwise to counter-clockwise back and forth a few times. (This pop will not occur when using the footswitch).
8. Effect-Direct Switch: The EFFECT position means that Channel 2 will have all the Effect functions. In the DIRECT position, Channel 2 will bypass all effects and will become a straight channel.
9. Channels 1 and 2: Two independent channels, one Passive and one Active. Channel 1 - 2 inputs with high gain for standard instruments and low gain for use with instruments which have high level outputs such as synthesizers, organs, etc. Please note that when two instruments are used simultaneously in one channel, the levels will be equalized to a level between high and low.

Controls for Channel 1 are Passive with the exception of the Mid range which is Active. Bright/Dark switch - Passive; Treble - Passive; Mid - Active and Bass - Passive. Therefore the response is flat at #2 on each of the tone controls and you can only ADD frequency response to the tonal range, not delete! Turn controls clockwise to boost. Treble has a gradual boost, Mids have a greater impact between 5 to 10 on the dial, and the Bass control is most effective 0 - 6. The type instrument used will of course affect the controls differently. It is important to note that when Volumes of 8 or more are used in either channel, the Bright position of the slide switch does not have audible effect. There is nothing wrong with the amp.

Channel 2 (also 2 inputs - High & Low) is an Active channel similar to our solid state with our characteristic warm, clean POLYTONE Sound! The controls are set up as follows: Bright/Dark - Passive; Treble - Active; Mid - Active; Bass - Active. Flat response is achieved at #5 and by moving forward clockwise you add frequency response. Conversely, by turning counter-clockwise from #5 you delete frequency response. Please note that the Treble control for Ch 2 is voiced for high frequency instruments. To be effective with guitar you must use maximum highs from your instrument in order that the Treble be operable.

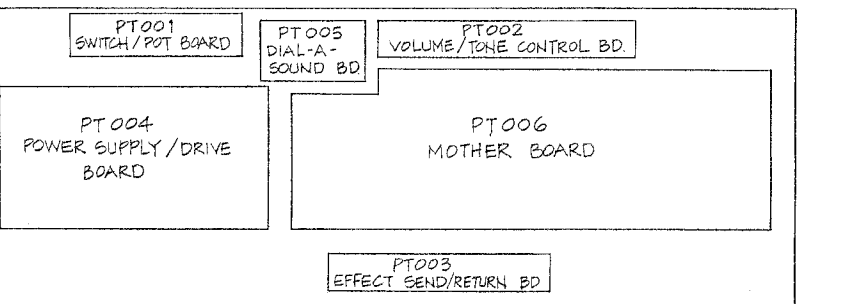
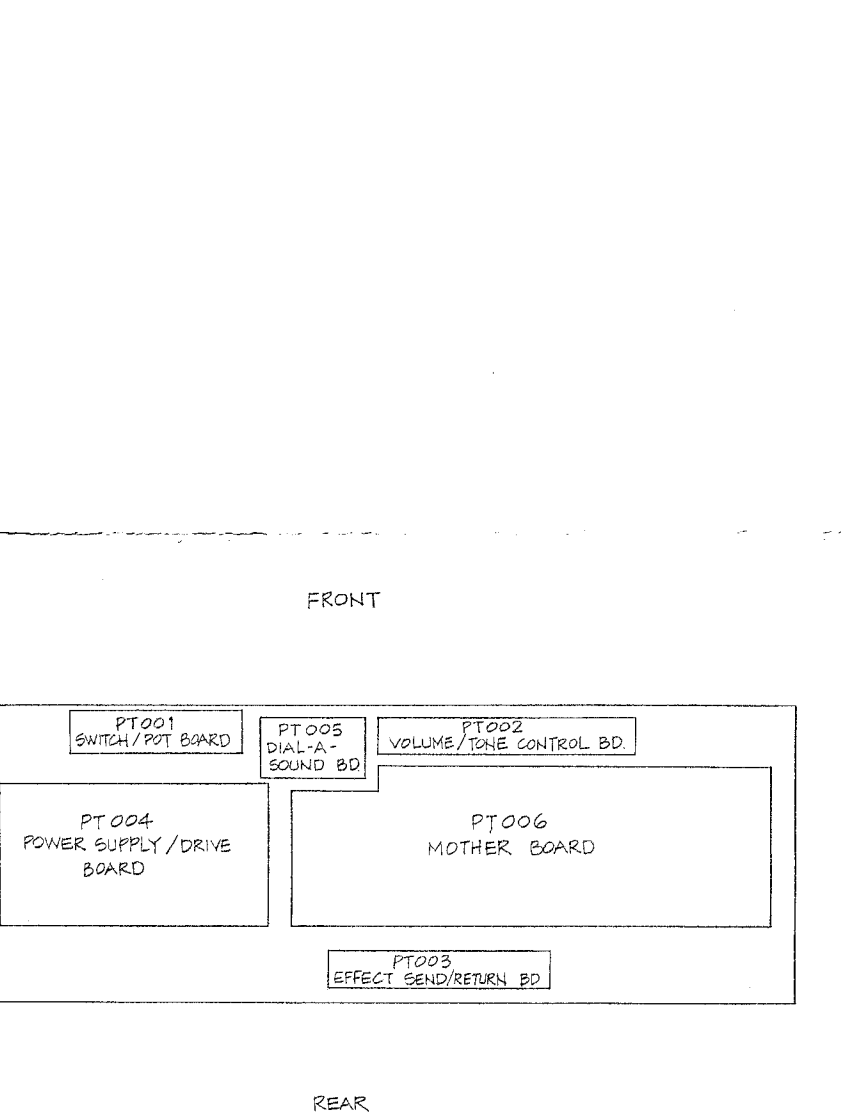
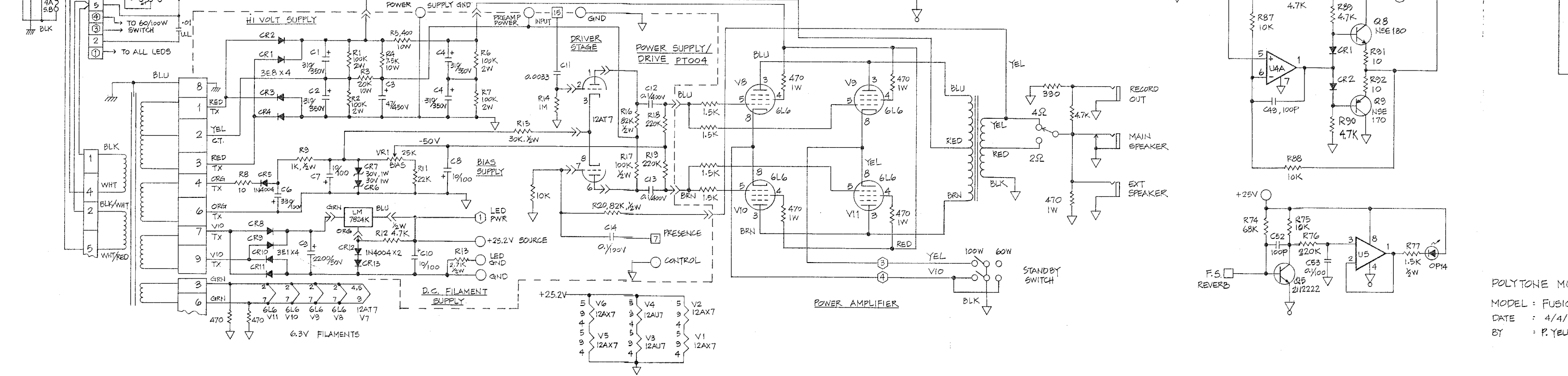
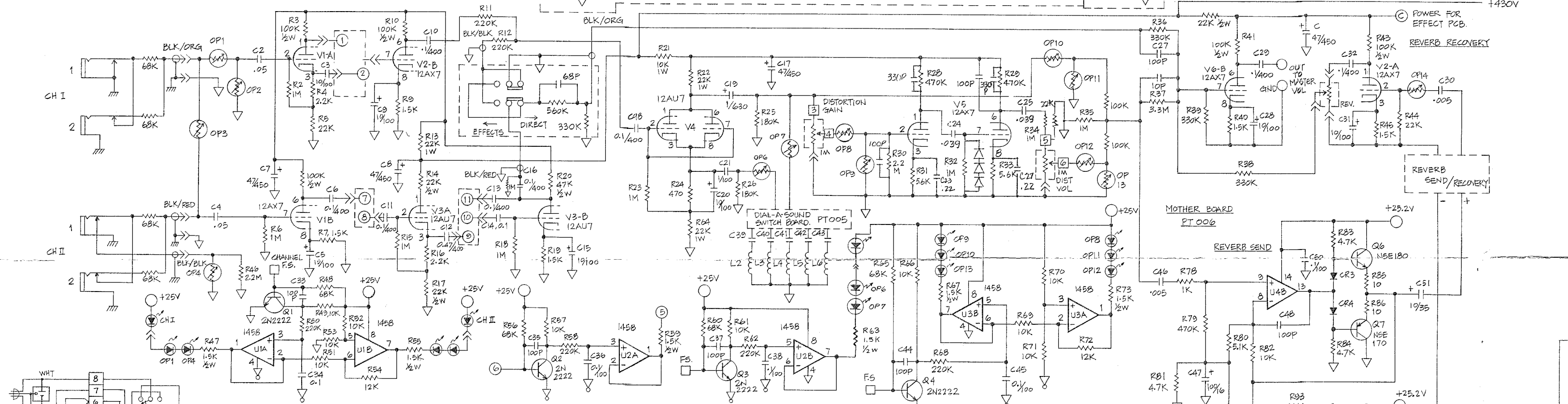
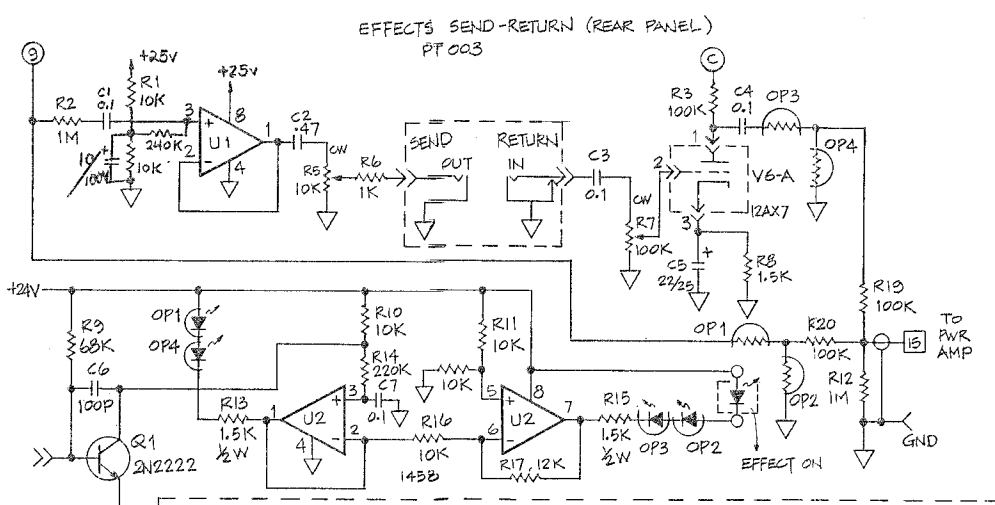
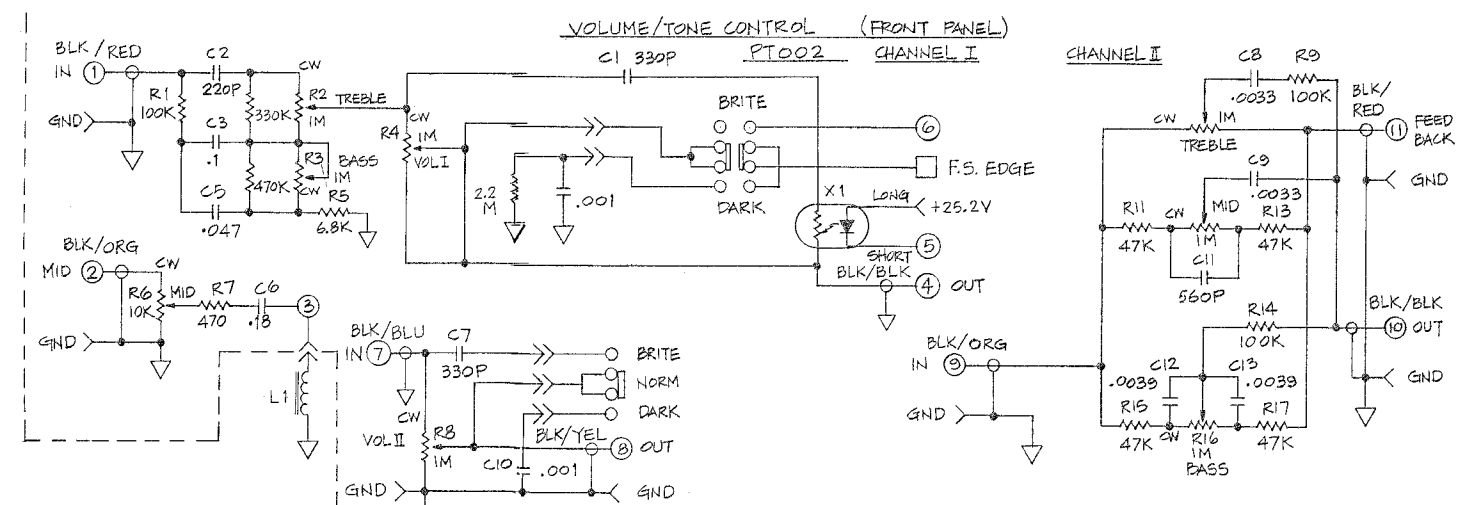
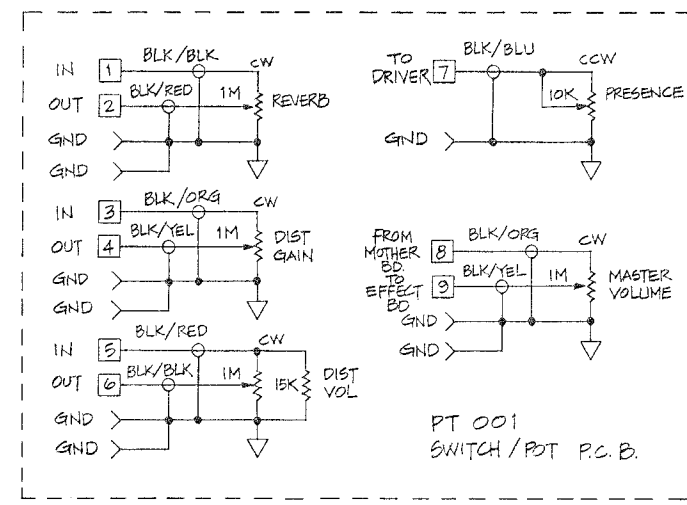
## FRONT PANEL - continued

LEDs indicate which channel is in operation. When using Channel Switching feature with footswitch the light will follow you. An LED is also located on the front panel which indicates when the EFFECTS LOOP is in operation.

## Manufacturer's Comments

We have taken extreme pride in the development and manufacturing of this all tube amplifier using very high quality components, i.e. 5% deposited carbon resistors,  $\pm 10\%$  metalized film capacitors, american made General Electric tubes with J-slots (metal cans) for signal tubes and clamps for retention of power tubes. We are very proud of the quiet operation of this tube amp (hum or hiss). Also, we are using all american plywood for the cabinet to keep the weight down; 28oz. cotten-backed Boltaflex<sup>o</sup> which is by no means inexpensive; all steel chassis; beautiful esthetics - diamond-cut knobs, removable grill cloth panel, handle with steel insert for strength; and most importantly, an extra heavy duty specially designed high compliance speaker with 58oz. magnet, 2½" vented aluminum voice coil for heat dissipation.

We bring you exceptional quality by limiting our profit margin with a realistically priced all tube amplifier! As a discriminating musician we are proud to have you join us.



POLYTONE MUSICAL INSTRUMENTS, INC.  
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